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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,760	07/21/2003	John Clifford Miller IV	MILL-01000US0	6510

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EXAMINER

WILLIAMS, ROSS A

ART UNIT	PAPER NUMBER
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3713

DATE MAILED: 05/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/624,760

Applicant(s)

MILLER ET AL.

Examiner

Ross A. Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because drawings are too dark and cannot be understood by the examiner. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 4 – 6, 10 – 13, and 19 – 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims repeatedly state the limitations of “sending information” and “receiving information”. It is not clear to the Examiner as to what this “information” actually is, or what comprises this information. Clarification is needed.

Claims 4, 6, 11, 13, 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims state the limitation of “*said controller further capable of determining a time at which the individual **appears ready to perform a golf swing***”. It is unclear to the examiner as to what is meant by “appears

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ready to perform a golf swing". It is also not clear as to how a device would go about determining an appearance of a user or a user's state of appearing to be ready to perform some action such as a golf swing.

Claim 4 recites the limitation "said second indication" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4, 6 – 9, 20, 22, 25, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by McTeigue et al. (US 5,221,088).

Claims 1, 20, 22, 25 and 28: McTeigue et al (hereafter McTeigue) discloses a sports training aid, specifically a golfing aid that senses the angle that is formed between a golfer's spine and a true vertical. The golfing aid uses an inclinometer to sense the user's spinal angle. The inclinometer is preferably an accelerometer that is set to generate audible tones to indicate that the measured spinal tilt falls outside of a spinal angle threshold that the user can set (McTeigue 6:49 – 8:20). The user is able to manually select the threshold of spinal angles by means of control keys (8:3 – 21). Audible indications are produced by an indicator (7:34 – 43, 8:30 – 49). A controller is also used to monitor and determine spinal angles and generate indications of the user's

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angle exceeding a spinal angle threshold (i.e. the maximum spinal angle) (11:57 – 12:15).

Claims 3 and 23: McTeigue discloses that the golf learning aid is wearable on the individual's head (McTeigue 12:5 – 11).

Claims 4, 6 and 21: McTeigue discloses that the system utilizes a START/STOP button which is depressible by the user, that initiates the system to start up and begin monitoring the players golfing posture, technique etc. When this occurs, the system then sends indicator signals to the player to provide indications of the player's spinal posture (McTeigue 11:12 – 24). The time after a player turns on the device is then determined by the golf aid to be the time that a player is ready to start using the golfing aid in a way to monitor and provide feedback on their golf swing. Thus, McTeigue discloses a device that determines a time when the player "appears ready" to perform a golf swing.

Claim 7: McTeigue states that the inclinometer is preferably an accelerometer that is set to generate audible tones to indicate that the measured spinal tilt falls outside of a spinal angle threshold that the user can set (McTeigue 6:49 – 8:20). The accelerometer thus measures or senses acceleration in the direction of gravity. (McTeigue 6:65 – 7: 7).

Claim 8: McTeigue discloses the user is able to manually select the threshold of spinal angles by means of control keys (8:3 – 21). Thus the user can select a range of maximum and minimum spine tilt that is preferable for a given golf game/exercise.

Claim 9: McTeigue discloses that the golf learning aid is wearable on the individual's head (McTeigue 12:5 – 11). As can be seen in FIGS 1, 3, and 4, the user is wearing an earpiece in which to hear the indications of improper spine tilt McTeigue discloses that the golf learning aid is wearable on the individual's head (McTeigue Figs 1, 3, and 4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 5, 10 – 17, 19 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over McTeigue et al. (US 5,221,088) in view of Bendo et al (US 5,743,807).

Claims 2 and 29: McTeigue et al (hereafter McTeigue) discloses a sports training aid, specifically a golfing aid that senses the angle that is formed between a

golfers spine and a true vertical. McTeigue discloses that the system utilizes a headset wearable by the user to indicate audible signals to the user of exceeding set spine angle thresholds. McTeigue does not disclose the system producing a second indication wherein the second indication is a metronome cadence repeating at a user-defined tempo. Bendo however discloses a wearable system that generates an audible indication of tempo to the user to better time his swings to (1:66 – 2:21). Thus Bendo discloses a device that functions as a metronome, due to the fact that a metronome is defined as “an instrument designed to mark exact time by a regularly repeated tick” (Mariam – Webster’s dictionary). Bendo also discloses that the person wears this system and hears the audio indications by means of a headset.

One of ordinary skill in the art would be motivated to modify McTeigue in view of Bendo for the purpose of providing a golf aid that not only provides a spine angle indicator, a weight shift indicator, a grip pressure indicator, but also produces tempo indications for the purpose of timing the swing of a golfer to. The use of a device that produces a tempo the user interacts with is useful to allow an athlete to repeatable practice to the timing pattern to thereby develop a smooth, consistent, rhythmic pattern and thereby develop better associated mechanics while maintaining proper posture and shoulder rotation during a golf swing.

Claim 5: Bendo discloses that the system for providing a tempo in which the player can time his swings to is activated by the user by means of an ON/OFF switch and is then programmed to emit a plurality of continuous timed signal patterns to the user (Bendo 4:17 – 40).

Claim 10: McTeigue et al (hereafter McTeigue) discloses a sports training aid, specifically a golfing aid that senses the angle that is formed between a golfer's spine and a true vertical. McTeigue discloses that the system utilizes a headset wearable by the user to indicate audible signals to the user of exceeding set spine angle thresholds. The golfing aid uses an inclinometer to sense the user's spinal angle. The inclinometer is preferably an accelerometer that is set to generate audible tones to indicate that the measured spinal tilt falls outside of a spinal angle threshold that the user can set (McTeigue 6:49 – 8:20). The user is able to manually select the threshold of spinal angles by means of control keys (8:3 – 21). Audible indications are produced by an indicator (7:34 – 43, 8:30 – 49). A controller is also used to determine spinal angles and generate indications of the user's angle exceeding a spinal angle threshold (i.e. the maximum spinal angle) (11:57 – 12:15). McTeigue does not disclose the system producing a second indication wherein the second indication is a metronome cadence repeating at a user-defined tempo. Bendo however discloses a wearable system that generates an audible indication of tempo to the user to better time his swings to (1:66 – 2:21). Thus Bendo discloses a device that functions as a metronome, due to the fact that a metronome is defined as “an instrument designed to mark exact time by a regularly repeated tick” (Mariam – Webster's dictionary). Bendo also discloses that the person wears this system and hears the audio indications by means of a headset.

One of ordinary skill in the art would be motivated to modify McTeigue in view of Bendo for the purpose of providing a spine angle golf aid that also produces tempo indications for the purpose of timing the swing of a golfer to. The use of a device that

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produces a tempo that the user interacts with, is useful to allow an athlete to repeatedly practice to the timing pattern, thereby developing a smooth, consistent, rhythmic pattern and thereby developing better associated golf swing mechanics.

Claims 11 and 13: McTeigue discloses that the system utilizes a START/STOP button which is depressible by the user, that initiates the system to start up and begin monitoring the players golfing posture, technique etc. When this occurs the system then sends indicator signals to the player to provide indications of the players spinal posture (McTeigue 11:12 – 24). The time after a player turns on the device is then determined by the golf aid to be the time that a player is ready to start using the golfing aid in a way to monitor and provide feedback on their golf swing. Thus, McTeigue discloses a device that determines a time when the player “appears ready” to perform a golf swing. Bendo also discloses that the system for providing a tempo in which the player can time his swings to is activated by the user by means of an ON/OFF switch and is then programmed to emit a plurality of continuous timed signal patterns to the user (Bendo 4:17 – 40). Thus after the user turns on the system, it is determined by the controller that the user is ready to use the golfing aid in the training exercise or game. The systems produce continuous indication signals such as tempo ticks or spine angle signals to help the player adjust their posture and swing timing.

Claim 12: Bendo discloses that the system for providing a tempo in which the player can time his swings to is activated by the user by means of an ON/OFF switch and is then programmed to emit a plurality of continuous timed signal patterns to the user (Bendo 4:17 – 40).

Claim 14: McTeigue states that the inclinometer is preferably an accelerometer that is set to generate audible tones to indicate that the measured spinal tilt falls outside of a spinal angle threshold that the user can set (McTeigue 6:49 – 8:20). The accelerometer thus measures or senses the amount of acceleration due to gravity.

Claim 15: McTeigue discloses the user is able to manually select the threshold of spinal angles by means of control keys (8:3 – 21). Thus the user can select a range of maximum and minimum spine tilt that is preferable for a given golf game/exercise.

Claims 16 and 17: McTeigue discloses that the golf learning aid is wearable on the individual's head (McTeigue 12:5 – 11). As can be seen in FIGS 1, 3, and 4, the user is wearing an earpiece in which to hear the indications of improper spine tilt. McTeigue discloses that the golf learning aid is wearable on the individual's head (McTeigue Figs 1, 3, and 4).

Claim 19: McTeigue and Bendo both discloses devices that are capable of being turned on and off by means of an ON/OFF switch (McTeigue 11:12 – 24; Bendo 4:17 – 40). Thus the player/User may decide to by means of the switches to activate or deactivate the first indicator and only want to be notified of the second indicator signal.

Claims 18 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over McTeigue et al. (US 5,221,088) in view of Bendo et al (US 5,743,807) as applied above and in view of (McMahon US 3,362,023).

Claims 18 and 24: McTeigue discloses the user wears a headset device that enables the user to hear indication signals that are generated by a device that is

mounted on the users body. McTeigue discloses the preferable mounting location to sense the spinal angle of the player would be between the hips and shoulders (McTeigue 6:53 – 56). It is an object of the present invention to provide a sports training aid that is portable, useable in the actual sport environment with the player's own equipment, which does not restrict or encumber the player in any way, and which provides real time feedback (McTeigue 2:16 – 20). However one of ordinary skill in the art would recognize that it would be obvious to mount the controller anywhere that would provide the least amount of interference to the player natural golf stroke or swing. Thus it would be obvious to mount the device on the head of a user by some means. McTeigue does not disclose that the system is mounted to the player's head by means of a cap. McMahon discloses a device that monitors whether a player moves or tilts his head during a golf stroke and produces an audible alarm to the user (McMahon 1: 28 – 33). The device is mounted on the user's cap, that is wearable on the user's head (McMahon Figs 1 – 5).

One of ordinary skill in the art would be motivated to modify McTeigue in view of Bendo and in further view of McMahon to provide a golf improvement device that monitors a players body posture, wherein the device is mounted on a hat or cap. This would provide a portable means that limits the amount of interference upon a players golf swing.

Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over McTeigue et al. (US 5,221,088).

Claims 26 and 27: McTeigue discloses a means of determining whether or not the current spinal angle of the user is between a predetermined threshold of spinal angle values. McTeigue discloses that the spine angles are sensed by the inclinometer and then compared by means of comparators comprising Op-Amps 222 and 224 (McTeigue Fig 7; 12:3 – 11). McTeigue does not specifically disclose that the data representing the spine angles are passed through a high/low pass filter to determine if thresholds have been exceeded or not. McTeigue does however disclose the use of comparators 222 and 224, that are calibrated with the maximum and minimum spinal tilt angles and which determine if the spinal tilt angles have been exceeded or not. This comparing process provides a filtering effect on the data sensed by the sensor. No indication is given for sensed information within the predetermined thresholds.

One of ordinary skill in the art would be motivated to modify McTeigue to use low/high pass filters to compare the data sensed by the accelerometer in order to provide the activation signals for the user to determine if spinal tilt angles have been exceeded.

Citation of Pertinent Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5,672,115: Positional sensing golf aid.

US 5,632,688: Golf timer control.

US 2006/0046865: Golf posture correcting tool.

US 4,958,145: Back indicator that signals alarms to user when bending back.

US 5,398,019: Posture sensor device.

US 5,640,971: Back monitor.

US 5,082,281: Sports timer.

US 2004/0214651: Golf swing tempo device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ross A. Williams whose telephone number is (571) 272-5911. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on 571-272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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SCOTT JONES
PRIMARY EXAMINER